CE

# DECLARATION OF CONFORMITY

**For the following equipment :**

**Manufacturer/Importer : MICRO-STAR INT' L CO.,LTD.**

**Address : 3F-5 No.30, Tai-Yuan St, Zhu-Bei City, Hsinchu Hsien 302, Taiwan**

**Trade mark : MSI**

**Product : AP54G**

**Model designation : MS-6844**

**This product is conformity with the Low Voltage Directive 73/23/EEC in order to Comply with the requirements in the Council Directive 73/23/EEC relating to Electrical equipment designed for use within certain voltage limits and the Amendment Directive standards were applied :**

**EN 60950 : 2000**

**This declaration is based on the test report No : SF-04-02-006T by Ecom Sertech Corp on Feb. 06, 2004.**

| **Manufacturer/Importer** | **Test Laboratory** |
|---|---|
| ---------- | Alex Chiu |
| (Name) | (Alex Chiu, Manager) |
| ---------- | Feb. 06, 2004 |
| (Place/Date) | (Date) |

**Ecom Sertech Corp.**

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**Ecom Sertech Corp.**
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# TESTING/ INSPECTION REPORT

| | |
|---|---|
| **Application No.** | : ER04-01-005 |
| **Company** | : MICRO-STAR INT'L CO.,LTD. |
| **Address** | : 3F-5 No.30, Tai-Yuan St, Zhu-Bei City, Hsinchu Hsien 302, Taiwan. |
| **Product Name** | : AP54G |
| **Model(Brand Name):** | MS-6844 (MSI) |
| **Quantity** | : 1 |
| **Date Received** | : Feb.05, 2004 |
| **Date Tested** | : Feb.06, 2004 |

**Testing/ Inspection Items**

Test standard: EN 60950 : 2000

Notes :

1. This report shall not be reproduced except in full without the written approval of the testing laboratory.
2. This report refers only to the specimen(s) submitted to testing, and is invalid as separately used.
3. This report is invalid without examination stamp and signature of this institute.
4. The tested specimen(s) shall be preserved for thirty days from the date issued.

**Test Result: Passed**

| | Name | Signature | Date |
|---|---|---|---|
| Testing Engineer | Amber Liao | Amber Liao | Feb, 06, 04' |
| Approving Manager | Alex Chiu | Alex Chiu | Feb. 06. 04 |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

**TEST REPORT**

**EN 60950 : 2000**

**Safety of Information Technology Equipment**

| | |
|---|---|
| Report reference No ..... : | SF-04-02-006T |
| Date of issue ..... : | 06.02.2004 |
| Contents..... : | 21 pages of test report |
| | 3 pages of photos |
| Testing laboratory ..... : | Ecom Sertech Corporation |
| Address……..: | No.8, Jiou Tseng Ling, Sinhua Township, Tainan County, Taiwan 712, R.O.C. |
| Applicant ..... : | MICRO-STAR INT'L CO.,LTD. |
| Address……..: | 3F-5 No.30, Tai-Yuan St, Zhu-Bei City, Hsinchu Hsien 302, Taiwan. |
| Standard..... : | EN 60950:2000 |
| Application for……..……: | Service for CE marking (LVD) |
| Type of test object……..…..: | AP54G |
| Trademark……..: | MSI |
| Model/type reference……: | MS-6844 |
| Rating……..……: | 12Vdc, 0.5A |
| Test item particulars: | |
| Operating condition……..: | Continuous |
| Tested for IT power systems……...: | No |
| IT testing, phase-phase voltage (V)..: | N/A |
| Class of equipment……..: | Class III |
| Equipment mobility……: | Movable |
| Mass of the equipment……..: | Approx. 0.43kg |
| Protection against ingress of water…: | IP20 |

• Test case verdicts:

— test case dose not apply to the test object..... : **N**(.A.)

— test case dose meet the requirement ..... : **P**(ass)

— test case dose not meet the requirement……: **F**(ail)

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

Brief description of the test sample:

The equipment is a movable Class III equipment that it consists of a main unit and an external AC adaptor which is evaluated Separately.

The top enclosure and bottom enclosure, secured together by two screws.

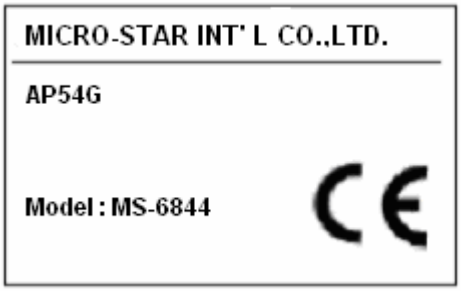
Overall dimension of this equipment is approx.LxWxH=124.5*90.9*27.2 mm.

The unit is for indoor use only.

The test sample is pre-production sample without serial number.

| List of conducted testing items : | Pass | Fail | N/A |
|---|---|---|---|
| 1.6.2 Input current test…. ..... : | ☒ | ☐ | ☐ |
| 1.7.13 Durability of marking test ..... : | ☒ | ☐ | ☐ |
| 2.4 Limited current circuit measurement..... : | ☐ | ☐ | ☒ |
| 2.9.4.1 Distance through ins. measurement..... : | ☐ | ☐ | ☒ |
| 2.10.2 Working voltage measurement ..... : | ☐ | ☐ | ☒ |
| 2.10.3 & 2.10.4 Clearance & Creepage distance ... : | ☐ | ☐ | ☒ |
| 4.1 Stability..... : | ☐ | ☐ | ☒ |
| 4.2.5 Impact test..... : | ☐ | ☐ | ☒ |
| 4.2.6 Drop test..... : | ☐ | ☐ | ☒ |
| 4.2.7 Stress relief ..... : | ☐ | ☐ | ☒ |
| 4.2.10 Wall or ceiling mounted equipment..... : | ☒ | ☐ | ☐ |
| 4.5.1 Temperature rise measurements..... : | ☒ | ☐ | ☐ |
| 4.6.1 & 4.6.2 openings in enclosures..... : | ☐ | ☐ | ☒ |
| 5.2 Electric strength test ..... : | ☐ | ☐ | ☒ |
| 5.3 Abnormal operating and fault conditions ..... : | ☒ | ☐ | ☐ |
| 6.2.2.1 Impulse test..... : | ☐ | ☐ | ☒ |

Copy of Marking Plate



| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 1.5 | Components | | **P** |
| 1.5.1 | Comply with IEC 60950 or relevant component standard | Components that were found to affect safety aspects comply with the requirements of this standard or with the safety aspects of the relevant IEC component standards. (see appended table 1.5.1) | **P** |
| 1.5.2 | Evaluation and testing components | Components that were certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. | **P** |
| 1.5.3 | Thermal controls | No thermal controls. | **N** |
| 1.5.4 | Transformers | This equipment is powered by SELV power source, no transformer in this equipment. | **N** |
| 1.5.5 | Interconnecting cables | No interconnecting cables. | **N** |
| 1.5.6 | Capacitors in primary circuits | No X capacitor or Y capacitor is used. | **N** |
| 1.5.7 | Double or reinforced insulation bridged by components | See below. | **N** |
| 1.5.7.1 | Bridging capacitors | No bridging capacitors. | **N** |
| 1.5.7.2 | Bridging resistors | No bridging resistors. | **N** |
| 1.5.7.3 | Accessible parts | Class III equipment. | **N** |
| 1.5.8 | Components in equipment for IT power systems | Class III equipment. | **N** |
| 1.6 | Power interface | | **P** |
| 1.6.1 | AC power distribution systems | No supply from the mains. | **N** |
| 1.6.3 | Voltage limit of hand-held equipment | Not hand-held equipment. | **N** |
| 1.6.4 | Neutral conductor | Class III equipment. | **N** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 1.7 | Marking and instructions | Class III equipment. For information purpose only. | **P** |
| 1.7.1 | Power rating | No power rating required, other marking is locked on the outside surface of the equipment on a self-adhesive label. | **N** |
| | Rated voltage(s) or voltage range(s) (V) | 12Vdc | **P** |
| | Symbol for nature of supply for d.c. | Not present | **N** |
| | Rated frequency or frequency range (Hz) | DC supplied | **N** |
| | Rated current (A) | 0.5A | **P** |
| | Manufacturer's name/Trade mark | MSI | **P** |
| | Type/Model Number | MS-6844 | **P** |
| | Symbol of Class II | Class III equipment | **N** |
| | Other symbols | Additional symbols or markings do not cause misunderstanding | **P** |
| | Certification marks | CE marking. | **P** |
| 1.7.2 | Safety instructions | The user's manual contains information for operation, installation and technical. | **P** |
| 1.7.3 | Short duty cycles | Unit is designed for continuous operation. | **N** |
| 1.7.4 | Supply voltage adjustment | Class III equipment | **N** |
| 1.7.5 | Power outlets on the equipment | No outlet | **N** |
| 1.7.6 | Fuse identification | Class III equipment | **N** |
| 1.7.7 | Wiring terminals | See below | **N** |
| 1.7.7.1 | Protective earthing and bonding terminals | Class III equipment | **N** |
| 1.7.7.2 | Terminal for a.c. mains supply conductors | Class III equipment | **N** |
| 1.7.8 | Controls and indicators | No controls are used on the equipment. | **N** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 1.7.8.1 | Identification, location and marking | The marking and indication of the power switch is located that indication of function is clearly. | **P** |
| 1.7.8.2 | Colours | The colors used for LED are indicating the following function :<br>- Blue (Power)<br>- Blue (Normal operation of signal)<br>- Blue (Wireless operation of signal) | **P** |
| 1.7.8.3 | Symbols according to IEC 60417 | | **N** |
| 1.7.8.4 | Markings using figures | | **N** |
| 1.7.9 | Isolation of multiple power sources | Class III equipment. | **N** |
| 1.7.10 | IT power system | Not intended for use on IT power systems. | **N** |
| 1.7.11 | Thermostats and other regulating devices | No thermostats or other regulating devices. | **N** |
| 1.7.12 | Language | Instructions and marking in English. | **P** |
| 1.7.13 | Durability | The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15s and then again for 15s with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge. | **P** |
| 1.7.14 | Removable parts | No removable parts. | **N** |
| 1.7.15 | Replaceable batteries | No batteries. | **N** |
| | Language | | **---** |
| 1.7.16 | Operator access with a tool | No operator access with a tool. | **N** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 1.7.17 | Equipment for restricted access locations | No restricted access locations. | **N** |
| 2 | Protection from hazards | | **P** |
| 2.1 | Protection from electric shock and energy hazards | | **P** |
| 2.1.1 | Protection in operator access areas | See below. | **P** |
| 2.1.1.1 | Access to energized parts | No access with test finger to any parts with only SELV circuits. | **P** |
| | Test by inspection | Ditto | **P** |
| | Test with test finger | Ditto | **P** |
| | Test with test pin | Ditto | **P** |
| | Test with test probe | No TNV circuits. | **N** |
| 2.1.1.2 | Battery compartments | No battery compartments. | **N** |
| 2.1.1.3 | Access to ELV wiring | SELV circuits, no ELV wiring in operator accessible area. | **N** |
| | Working voltage (V); distance (mm) through insulation | | **---** |
| 2.1.1.4 | Access to hazardous voltage circuit wiring | No hazardous voltage wiring in operator accessible area. | **N** |
| 2.1.1.5 | Energy hazards | No energy hazards in equipment. | **N** |
| 2.1.1.6 | Manual controls | No manual controls. | **N** |
| 2.1.1.7 | Discharge of capacitors in the primary circuit | Class III equipment. | **N** |
| 2.1.2 | Protection in service access areas | No service access areas. | **N** |
| 2.1.3 | Protection in restricted access locations | The unit is not intended to be used in restricted locations. | **N** |
| 2.2 | SELV circuits | | **P** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 2.2.1 | General requirements | SELV circuits are maintained after single fault condition. Insulating materials used are solid or laminated, having adequate thickness and adequate creepage distance over their surfaces and there are adequate clearances through air. | **P** |
| 2.2.2 | Voltage under normal conditions (V) | All accessible voltage are less 42.4V peak or 60Vdc and are classified as SELV. | **P** |
| 2.2.3 | Voltage under fault conditions (V) | Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120Vdc were not exceeded for a period longer than 0.2s. | **P** |
| 2.2.3.1 | Separation by double or reinforced insulation (method 1) | Class III equipment. | **N** |
| 2.2.3.2 | Separation by earthed screen (method 2) | | **N** |
| 2.2.3.3 | Protection by earthing of the SELV circuit (method 3) | | **N** |
| 2.2.4 | Connection of SELV circuits to other circuits | SELV circuits are only connected to other SELV circuits. | **P** |
| 2.3 | TNV circuits<br>No TNV circuits. | | **N** |
| 2.3.1 | Limits | | **N** |
| 2.3.2 | Separation from other circuits and from accessible parts | | **N** |
| | Used insulation | | **---** |
| 2.3.3 | Separation from hazardous voltages | | **N** |
| | Used insulation | | **---** |
| 2.3.4 | Connection of TNV circuits to other circuits | | **N** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| | Used insulation | | --- |
| 2.3.5 | Test for operating voltages generated externally | | N |
| 2.4 | Limited current circuits<br>No Limited current circuits. | | N |
| 2.4.1 | General requirements | | N |
| 2.4.2 | Limit values | | N |
| 2.4.3 | Connection of limited current circuits to other circuits | | N |
| 2.5 | Limited power source<br>No Limited power source | | N |
| 2.6 | Provisions for earthing and bonding | | N |
| 2.6.1 | Protective earthing | Class III equipment | N |
| 2.6.2 | Functional earthing | Class III equipment | N |
| 2.6.3 | Protective earthing and protective bonding conductors | Class III equipment | N |
| 2.6.3.1 | Size of protective earthing conductors | | N |
| | Rated current (A), cross-sectional area ($mm^2$), AWG | | --- |
| 2.6.3.2 | Size of protective bonding conductors | | N |
| | Rated current (A), cross-sectional area ($mm^2$), AWG | | --- |
| 2.6.3.3 | Rated current (A), type and nominal thread diameter (mm) | | N |
| | Resistance (Ω) of earthing conductors and their terminations, test current (A) | | N |
| 2.6.3.4 | Colour of insulation | | N |
| 2.6.4 | Terminals | Class III equipment | N |
| 2.6.4.1 | Protective earthing and bonding terminals | | N |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| | Rated current (A), type and nominal thread diameter (mm) | | **---** |
| 2.6.4.2 | Separation of the protective earthing conductor from protective bonding conductors | | **N** |
| 2.6.5 | Integrity of protective earthing | Class III equipment | **N** |
| 2.6.5.1 | Interconnection of equipment | | **N** |
| 2.6.5.2 | Components in protective earthing conductors and protective bonding conductors | | **N** |
| 2.6.5.3 | Disconnection of protective earth | | **N** |
| 2.6.5.4 | Parts that can be removed by an operator | No such parts | **N** |
| 2.6.5.5 | Parts removed during servicing | No such parts | **N** |
| 2.6.5.6 | Corrosion resistance | No such parts | **N** |
| 2.6.5.7 | Screws for protective bonding | No such parts | **N** |
| 2.6.5.8 | Reliance on telecommunication network | No telecommunication network | **N** |
| 2.7 | Overcurrent and earth fault protection in primary circuits<br>Class III equipment. | | **N** |
| 2.7.1 | Basic requirements | | **N** |
| 2.7.2 | Faults not covered in 5.3 | | **N** |
| 2.7.3 | Short-circuit backup protection | | **N** |
| 2.7.4 | Number and location of protective devices | | **N** |
| 2.7.5 | Protection by several devices | | **N** |
| 2.7.6 | Warning to service personnel | | **N** |
| 2.8 | Safety interlocks<br>No safety interlocks. | | **N** |
| 2.8.1 | General principles | | **N** |
| 2.8.2 | Protection requirements | | **N** |
| 2.8.3 | Inadvertent reactivation | | **N** |
| 2.8.4 | Fail-safe operation | | **N** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 2.8.5 | Interlocks with moving parts | | **N** |
| 2.8.6 | Overriding an interlock | | **N** |
| 2.8.7 | Switches and relays in interlock systems | | **N** |
| 2.8.7.1 | Contact gaps (mm) | | **N** |
| 2.8.7.2 | Overload test | | **N** |
| 2.8.7.3 | Endurance test | | **N** |
| 2.8.7.4 | Electric strength test (V) | | **N** |
| 2.8.8 | Mechanical actuators | | **N** |
| 2.9 | Electrical insulation | | **P** |
| 2.9.1 | Properties of insulating materials | Natural rubber, asbestos or hygroscopic materials not used. | **P** |
| 2.9.2 | Humidity conditioning | Class III equipment. | **N** |
| 2.9.3 | Requirements for insulation | Insulation complies with 2.10, 4.5.1 and 5.2 | **P** |
| 2.9.4 | Insulation parameters | Both parameters considered. | **P** |
| 2.9.5 | Categories of insulation | The adequate levels of safety insulation are provided and maintained to comply with the requirements of this standard. | **P** |
| 2.10 | Clearance, creepage distances and distances through insulation | | **P** |
| 2.10.1 | General | See below | **---** |
| 2.10.2 | Determination of working voltage | To be considered | **---** |
| 2.10.3 | Clearances | Only functional insulation | **P** |
| 2.10.3.1 | General | When measuring clearances, the steady force, 10N±1N for components 30N±3N for internal enclosure and 250N±10N for external enclosure, were applied. | **P** |
| 2.10.3.2 | Clearance in primary circuits | No primary circuits. | **N** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 2.10.3.3 | Clearance in secondary circuits | Functional insulation only. | **P** |
| 2.10.3.4 | Measurement of transient levels | Not directly connected to mains. | **N** |
| 2.10.4 | Creepage distance | Functional insulation only. | **P** |
| | CTI tests | CTI rating for all materials of minimum 100. | **---** |
| 2.10.5 | Solid insulation | No used such parts in equipment. | **N** |
| 2.10.5.1 | Minimum distance through insulation | Class III equipment. | **N** |
| 2.10.5.2 | Thin sheet material | No used such parts in equipment. | **N** |
| 2.10.5.3 | Printed boards | Not applied for. | **N** |
| 2.10.5.4 | Wound components | No used such parts in equipment. | **N** |
| 2.10.6 | Coated printed boards | No coated printed boards. | **N** |
| 2.10.6.1 | General | | **N** |
| 2.10.6.2 | Sample preparation and preliminary inspection | | **N** |
| 2.10.6.3 | Thermal cycling | | **N** |
| 2.10.6.4 | Thermal ageing | | **N** |
| 2.10.6.5 | Electric strength test | | **N** |
| 2.10.6.6 | Abrasion resistance test | | **N** |
| 2.10.7 | Enclosed and sealed parts | No hermetically sealed components. | **N** |
| 2.10.8 | Spacings filled by insulating compound | No such parts. | **N** |
| 2.10.9 | Component external terminations | See sub-clause 2.10.3 to 2.10.4 | **P** |
| 2.10.10 | Insulation with varying dimensions | No such parts used. | **P** |
| 3 | WIRING, CONNECTIONS AND SUPPLY | | **P** |
| 3.1.1 | Current rating and overcurrent protection | No internal wiring used. | **N** |
| 3.1.2 | Protection against mechanical damage | No internal wiring used. | **N** |
| 3.1.3 | Securing of internal wiring | No internal wiring used. | **N** |
| 3.1.4 | Insulation of conductors | The insulation of the individual conductors is suitable for the application and the working voltage. | **P** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 3.1.5 | Beads and ceramic insulators | Not used. | **N** |
| 3.1.6 | Screws for electrical contact pressure | No electrical contact pressure by screwed connection. | **N** |
| 3.1.7 | Non-metallic materials in electrical connections | No contact pressure through insulating material. | **P** |
| 3.1.8 | Self-tapping and spaced thread screws | No self-tapping or spaced thread screw. | **N** |
| 3.1.9 | Termination of conductors | The connection of conductors is soldered, crimped, push-in and similar means. | **P** |
| 3.1.10 | Sleeving on wiring | No sleeving used. | **N** |
| 3.2 | Connection to a.c. mains supples<br>Class III equipment. | | **N** |
| 3.2.1 | Means of connection | | **N** |
| 3.2.2 | Multiple supply connections | | **N** |
| | Number of conductors, diameter (mm) of cable and conduits | | **---** |
| 3.2.3 | Permanently connected equipment | | **N** |
| 3.2.4 | Appliance inlets | | **N** |
| 3.2.5 | Power supply cords | | **N** |
| | Type | | **---** |
| | Rated current (A), cross-sectional area ($mm^2$), AWG | | **---** |
| 3.2.6 | Cord anchorages and strain relief | | **N** |
| | Mass of equipment (kg), pull (N) | | **---** |
| | Longitudinal displacement (mm) | | **---** |
| 3.2.7 | Protection against mechanical damage | | **N** |
| 3.2.8 | Cord guards | | **N** |
| | D (mm); test mass (g) | | **---** |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| | Radius of curvature of cord (mm) | | --- |
| 3.2.9 | Supply wiring space | | N |
| 3.3 | Wiring terminals for connection of external conductors | | N |
| 3.3.1 | Wiring terminals | | N |
| 3.3.2 | Connection of non-detachable power supply cords | | N |
| 3.3.3 | Screw terminals | | N |
| 3.3.4 | Rated current (A), type and nominal thread diameter (mm) | | N |
| 3.3.5 | Rated current (A), type and nominal thread diameter (mm) | | N |
| 3.3.6 | Wiring terminals design | | N |
| 3.3.7 | Grouping of wiring terminals | | N |
| 3.3.8 | Standard wire | | N |
| 3.4 | Disconnection from the a.c. mains supply<br>Class III equipment. | | N |
| 3.4.1 | General requirement | | N |
| 3.4.2 | Disconnect devices | | N |
| 3.4.3 | Permanently connected equipment | | N |
| 3.4.4 | Parts which remain energized | | N |
| 3.4.5 | Switches in flexible cords | | N |
| 3.4.6 | Single-phase equipment | | N |
| 3.4.7 | Three-phase equipment | | N |
| 3.4.8 | Switches as disconnect devices | | N |
| 3.4.9 | Plugs as disconnect devices | | N |
| 3.4.10 | Interconnected equipment | | N |
| 3.4.11 | Multiple power source | | N |
| 3.5 | Interconnection of equipment | | P |

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 3.5.1 | General requirements | Only SELV circuits are connected to other equipment. | **P** |
| 3.5.2 | Types of interconnection circuits | SELV | **P** |
| 3.5.3 | ELV circuits as interconnection circuits | No ELV interconnections. | **P** |
| 4 | Physical requirements | | **P** |
| 4.1 | Stability | Under conditions of normal use, equipment is stable at inclined surface to the degree. | **N** |
| 4.1.1 | Angle of 10° | | **---** |
| 4.2 | Mechanical strength | | **P** |
| 4.2.1 | General | See below. After the tests, the unit continued to comply with 2.1.1 and 2.10. | **P** |
| 4.2.2 | Steady force test, 10N | 10N applied to components. | **P** |
| 4.2.3 | Steady force test, 30N | No internal enclosure. | **N** |
| 4.2.4 | Steady force test, 250N | 250N applied to external enclosure. | **P** |
| 4.2.5 | Impact test | Class III equipment no hazardous parts. | **N** |
| 4.2.6 | Drop test | Movable equipment. | **N** |
| 4.2.7 | Stress relief | After 7 hours at 70℃ and cooling down to room temperature, no shrinkage, distortion or loosening if any enclosure part was noticeable on the equipment. | **N** |
| 4.2.8 | Cathode ray tubes | No cathode ray tubes | **---** |
| | Picture tube separately certified | | **N** |
| | Picture tubes > 16 cm intrinsically protected | | **N** |
| | Non-intrinsically protected tubes > 16 m used with protective screen | | **N** |
| | Intrinsically protected tubes : tests on 12 samples | | **N** |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| | Samples subject to ageing : 6 | | **N** |
| | Samples subject to implosion test : 6 | | **N** |
| | Samples subject to mechanical strength test (steel ball) : 6 | | **N** |
| | Non-intrinsically protected tubes tested | | **N** |
| 4.2.9 | High pressure lamps | No high pressure lamp. | **N** |
| 4.2.10 | Wall or ceiling mounted equipment | The equipment and its associated mounting means shall remain secure during test. 0.43*3=1.29 kg (3 times weight of equipment) | **P** |
| | force (N) | 50N/1min | **P** |
| 4.3 | Design and construction | | **P** |
| 4.3.1 | Edges and corners | All edges and corners judged to be sufficiently well rounded. | **P** |
| 4.3.2 | Handles and manual controls; force (N) | No such controls. | **N** |
| 4.3.3 | Adjustable controls | No adjustable controls. | **N** |
| 4.3.4 | Securing of parts | No loosening of parts impairing clearance or creepage distance is likely to occur. | **P** |
| 4.3.5 | Connection of plugs and sockets | IEC60083 and IEC60320 connectors are not used in equipment. | **N** |
| 4.3.6 | Direct plug-In equipment | No direct plug-In equipment. | **N** |
| 4.3.7 | Heating elements in earthed equipment | No heating elements. | **N** |
| 4.3.8 | Batteries | No batteries. | **N** |
| 4.3.9 | Oil and grease | No oil and grease. | **N** |
| 4.3.10 | Dust, powders, liquids and gases | Equipment in intended use not considered to be exposed to these. | **N** |
| 4.3.11 | Containers for liquids or gases | No container for liquid or gases. | **N** |
| 4.3.12 | Flammable liquids | No flammable liquids. | **N** |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 4.3.13 | Radiation; type of radiation | No ionizing radiation, laser or flammable liquids presents. | **N** |
| | Equipment using lasers, see separate test report of IEC 60825-1 | Ditto | **N** |
| 4.4 | Protection against hazardous moving parts<br>No moving parts. | | **N** |
| 4.4.1 | General | | **N** |
| 4.4.2 | Protection in operator access areas | | **N** |
| 4.4.3 | Protection in restricted access locations | | **N** |
| 4.4.4 | Protection in service access areas | | **N** |
| 4.5 | Thermal requirements | | **P** |
| 4.5.1 | Temperature rise | See appended table 4.5.1 | **P** |
| 4.5.2 | Resistance to abnormal heat | No thermoplastic parts on which parts at hazardous voltage are directly mounted. | **N** |
| 4.6 | Openings in enclosures | | **P** |
| 4.6.1 | Top and side openings | No opening in the top and side enclosure. | **P** |
| | Dimensions (mm) | | **P** |
| 4.6.2 | Bottom of fire enclosures | Provided with 8 slots openings in the bottom enclosure. | **P** |
| | Construction of the bottom | Each measures maximum 35 mm by 2.0mm. Also provided with two key-shaped mounting openings, each measures 10.8 mm dia by 5.4 mm. | **P** |
| 4.6.3 | Doors or covers in fire enclosures | No door or cover. | **N** |
| 4.6.4 | Openings in transportable equipment | Movable equipment | **N** |
| 4.6.5 | Adhesives for constructional purposes | No adhesives for constructional purpose. | **N** |
| 4.7 | Resistance to fire | | **P** |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 4.7.1 | Reducing the risk of ignition and spread of flame | Use of materials with the required flammability classes. | **P** |
| 4.7.2 | Conditions for a fire enclosure | See below. | **P** |
| 4.7.2.1 | Parts requiring a fire enclosure | See clause 4.7.2.2 | **N** |
| 4.7.2.2 | Parts no requiring a fire enclosure | Other components in SECONDARY CIRCUITS supplied by limited power sources complying with 2.5 and mounted on materials of FLAMMABILITY CALSS V-1. | **P** |
| 4.7.3 | Materials | See below. | **P** |
| 4.7.3.1 | General | PCB rated V-1 or better. | **P** |
| 4.7.3.2 | Materials for fire enclosures | See sub-clause 4.7.2.2 | **N** |
| 4.7.3.3 | Materials for components and other parts outside fire enclosures | See sub-clause 4.7.2 | **N** |
| 4.7.3.4 | Materials for components and other parts inside fire enclosures. | Internal components except small parts are V-2 or better. | **P** |
| 4.7.3.5 | Materials for air filter assemblies | No air filter assemblies | **N** |
| 4.7.3.6 | Materials used in high-components | No high voltage components. | **N** |
| 5 | ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS<br>Class III equipment. | | **N** |
| 5.1 | Touch current and protective conductor current | | **N** |
| 5.1.1 | General | | **N** |
| 5.1.2 | Equipment under test (EUT) | | **N** |
| 5.1.3 | Test circuit | | **N** |
| 5.1.4 | Application of measuring instrument | | **N** |
| 5.1.5 | Test procedure | | **N** |
| 5.1.6 | Test measurements | | **N** |
| | Test voltage (V) | | **---** |
| | Measured current | | **---** |
| | Max. allowed current (mA) | | **---** |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 5.1.7 | Equipment with touch current | | **N** |
| | Exceeding 3.5 mA | | **---** |
| 5.1.8 | Touch currents to and from telecommunication networks. | No TNV. | **N** |
| 5.1.8.1 | Limitation of the touch current to a telecommunication network | No TNV | **N** |
| | Test voltage (V) | | **---** |
| | Measured current (mA) | | **---** |
| | Max. allowed current (mA) | | **---** |
| 5.1.8.2 | Summation of touch current from telecommunication networks | No TNV | **N** |
| 5.2 | Electric strength<br>Class III equipment. | | **N** |
| 5.2.1 | General | | **N** |
| 5.2.2 | Test procedure | | **N** |
| 5.3 | Abnormal operating and fault conditions | | **P** |
| 5.3.1 | Protection against overload and abnormal operation | Class III equipment | **N** |
| 5.3.2 | Motors | No motor. | **N** |
| 5.3.3 | Transformers | No such parts | **N** |
| 5.3.4 | Functional insulation | Components mounted on V-0 material. | **P** |
| 5.3.5 | Electromechanical components | No electromechanical components. | **N** |
| 5.3.6 | Simulation of faults | Blocked ventilation openings. | **P** |
| 5.3.7 | Unattended equipment | No thermostat, temperature limiter or thermal cut-cut. | **N** |
| 5.3.8 | Compliance criteria for abnormal operating and fault conditions | See appended table 4.5.1 for temperature. | **P** |
| 5.3.8.1 | During the tests | No fire, no emit and no shrinkage, distortion or loosening if any enclosure part was noticeable on the equipment. | **P** |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |
| 5.3.8.2 | After the tests | | **P** |
| 6 | CONNECTION TO TELECOMMUNICATION NETWORKS<br>No TNV. | | **N** |
| 6.1 | Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment. | | **N** |
| 6.1.1 | Protection from hazardous voltages | | **N** |
| 6.1.2 | Separation of the telecommunication network from earth | | **N** |
| 6.1.2.1 | Requirements | | **N** |
| | Test voltage (V) | | **---** |
| | Current in the test circuit (mA) | | **---** |
| 6.1.2.2 | Exclusions | | **N** |
| 6.2 | Protection of equipment users from overvoltages on telecommunication networks | | **N** |
| 6.2.1 | Separation requirements | | **N** |
| 6.2.2 | Electric strength test procedure | | **N** |
| 6.2.2.1 | Impulse test | | **N** |
| 6.2.2.2 | Steady-state test | | **N** |
| 6.2.2.3 | Compliance criteria | | **N** |
| 6.3 | Protection of telecommunication wiring system from overheating | | **N** |
| | Max. output current (A) | | **---** |
| | Current limiting method | | **---** |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

| 1.5.1 | TABLE: list of critical components | | | | | **P** |
|---|---|---|---|---|---|---|
| No | Object/ Part No. | Manufacturer/ trademark | Type/ Model | Technical Data | Standard | Marks of conformity |
| 1. | Power Adaptor | Dee Van Enterprise Co., Ltd. | DV-1250UP | Input : AC 230V, 50Hz, 75mA<br>Output : DC 12V, 0.5A<br>Class II, LPS | EN 60950 2nd | TUV/GS |
| 2. | Enclosure material | --- | --- | HB or better | UL 94 | UL |
| 3. | PCB material | --- | --- | V-1 or better , 105°C | UL 796 | UL |

| 1.6.2 | TABLE: electrical data ( in normal conditions) | | | | Power : 12V/0.5A | | **P** |
|---|---|---|---|---|---|---|---|
| Test No. 1 | Dee Van Enterprise Co., Ltd. | | | | DV-1250UP | | **---** |
| Test No. | Input | | | | Output | | |
| | V | Hz | W | A | V | W / A | Ohms |
| 1. | 15.03 | dc | 2.67 | 0.178 | --- | --- | --- |

| 4.5.1 | TABLE: temperature rise measurements | | **P** |
|---|---|---|---|
| Test Voltage : 12Vdc | | | |
| Operating condition | A : Maximum normal load. | | |
| | B. Maximum normal load with all ventilation openings blocked. | | |
| Test position : | Measured (℃) A / B | measured dT (K) A / B | Allowed dT (K) |
| 1. Ambient | 20.6 / 20.8 | --- | --- |
| 2. M0327C173 (IC) | 71.6 / 72.2 | 51.0 / 51.4 | --- |
| 3. 57V641620HG (IC) | 59.3 / 60.2 | 38.7 / 39.4 | --- |
| 4. RTL8201BL (IC) | 60.7 / 61.2 | 40.1 / 40.4 | --- |
| 5. 3686AIR (IC) | 57.6 / 57.5 | 37.0 / 36.7 | --- |
| 6. T1 | 50.7 / 51.0 | 30.1 / 30.2 | --- |
| 7. L17 | 60.2 / 60.4 | 39.6 / 39.6 | 65 |

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|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

| | | | |
|---|---|---|---|
| 8. SK1 | 38.3 / 38.5 | 17.7 / 17.7 | 30 |
| 9. C229 | 53.0 / 53.5 | 32.4 / 32.7 | 65 |
| 10.2H837900 (IC) | 56.1 / 56.5 | 35.5 / 35.7 | --- |
| 11.PCB | 54.0 / 54.1 | 33.4 / 33.3 | 65 |
| 12.Enclosure inside | 34.9 / 35.3 | 14.3 / 14.5 | 55 |
| 13.Enclosure outside | 31.9 / 31.8 | 11.3 / 11.0 | 55 |
| 14.Enclosure of power adaptor | 31.4 / 31.5 | 10.8 / 10.7 | 55 |

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.5 at voltages as described in 1.4.5.

With a specified ambient temperature of 40℃, the maximum temperature rise is calculated as follows :

Electrolyte capacitor or components with :

-PCB of 105℃ dTmax = (105-40)K = 65K

-C229 of 105℃ dTmax = (105-40)K = 65K

-L17 of 105℃ dTmax = (105-40)K = 65K

-Surface of equipment which may be touched :

-Plastic dTmax = 70 – (40-25)K = 55K

-Metal dTmax =45 – (40-25)K = 30K

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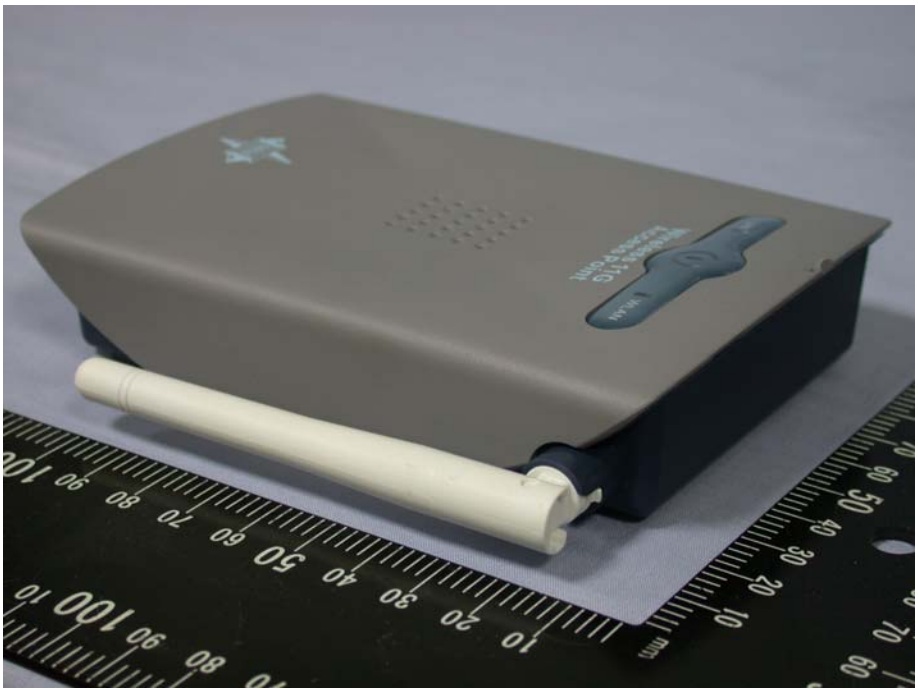
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

Model : MS-6844

Appendix : Photo 1



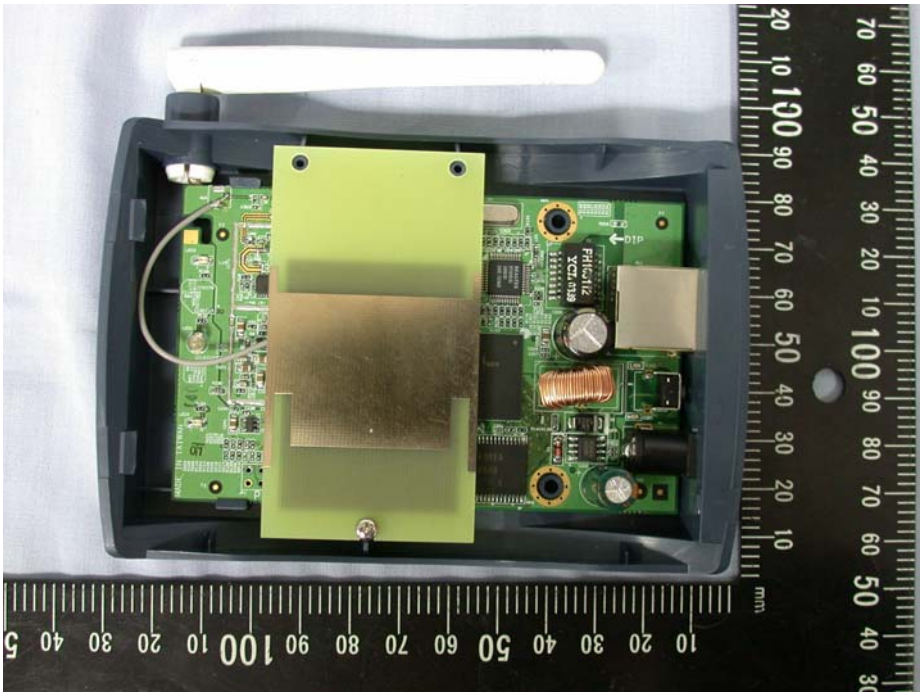
Appendix : Photo 2

| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

Model : MS-6844

Appendix : Photo 3

Appendix : Photo 4



| EN 60950 : 2000 | | | |
|---|---|---|---|
| **Clause** | **Requirement - Test** | **Result - Remark** | **Verdict** |

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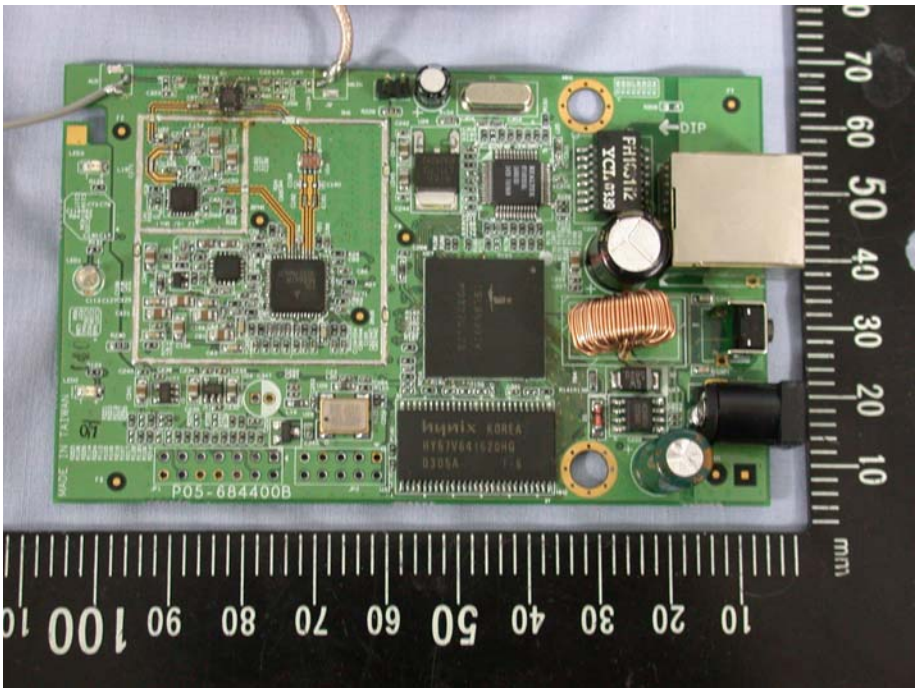
Appendix : Photo 5




Appendix : Photo 6